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Reply to Office Action of March 10, 2005

REMARKS

Applicant appreciates the thorough examination of the application that is reflected in the Office Action dated March 10, 2005. Applicant also appreciates the Examiner's indication that claims 59 and 69 are allowed.

To expedite the prosecution of this application, Applicant cancels claims 31, 34, 36, 63, and 68 without prejudice, and amends claims 28, 29, 30, 32, 33, 35, 62, 66 and 67 to correct informalities. These amendments do not alter the scope of claims 28, 29, 30, 32, 33, 35, 62, 66 and 67, but are merely cosmetic and intended to improve readability of the claims. Applicant also amends each of independent claims 28, 29, 32, and 33 to change each occurrence of the terms "high" and "higher" to "first," each occurrence of the terms "low" and "lower" to "second," and each occurrence of the term "wired network" to "cell controller." These amendments are broadening in nature and do not narrow the scope of independent claims 28, 29, 32, and 33. Claims 59, 60, 61, 64, 65, and 69 remain unchanged.

Applicant also adds new claims 70-90. Claims 28-30, 32-33, 35, 59-62, 64-69, and 70-90 (11 independent; 41 total) are pending in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

Art-based Rejections

The Official Action rejects claims 28-36 and 60-68 under 35 U.S.C. 103(a) as being unpatentable over Panasik et al. (USPN 6,590, 884 B1) further in view of Belanger et al. (USPN 5,875,186).

Applicant respectfully traverses these rejections for at least the following reasons.

Independent claims 28 and 32

Independent claim 28 relates to a method for transmitting signals having a wireless signal format using <u>an RF port, coupled to a cell controller, said RF port being configured to perform second level medium access control (MAC) functions,</u> the RF port comprising a cell controller interface, a data processor and an RF module, and <u>wherein the cell controller is configured to perform first level MAC functions.</u> This method comprises:

> receiving data packets, formatted according to first level of MAC functions, at the RF port over the cell controller via said cell controller interface;

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> generating wireless data signals at the processor based on the data packets, wherein the wireless data signals are of said wireless signal format. (Emphasis added.)

Independent claim 32 relates to a method for receiving signals having a wireless signal format including wireless address data and message data at an RF port, the RF port having a cell controller interface whereby the RF port is coupled to a cell controller, and the RF port further having a data processor and an RF module, wherein the RF port is configured to perform only second level MAC functions. This method comprises:

> receiving RF signals having said wireless signal format at the RF module from a mobile unit;
> converting the RF signals into wireless data signals at the RF module;
> receiving wireless data signals at the data processor from said RF module; and
> converting the wireless data signals into data signals at the data processor;
> providing data signals to said cell controller interface from said data processor, wherein said data signals comprise a data packet having a source address corresponding to said RF port. (Emphasis added.)

In rejecting claims 28 and 32, the Office Action cites col. 3, line 52 through col. 4, line 2 of the Panasik reference as allegedly teaching the features recited in claim 28. Col. 3, line 52 through col. 4, line 2 of the Panasik reference discusses that:

> "Signals 16 from the antenna 14 of the wireless computing device 12 could be received by several access points but is assigned to a single access point 18, which typically corresponds to the access point in closest proximity to the wireless computing device 12 thus providing the strongest signal 16. The strength of the signal 16 at the single access point 18 depends on the distance between the wireless computing device 12 and the single access point 18.
>
> The wireless network environment 10 is arranged to provide switch diversity for the various devices on the network. Using switch diversity, the single access point 18 that provides the best signal-to-noise ratio for each wireless computing device 12 is chosen from all the access points 18 and 20. Thereafter, communications to and from the wireless computing device 12 continue through the single access point 18, as long as the wireless computing device 12 is within the reception range 13 of the single access point 18." (Panasik at col. 3, line 52 through col. 4, line 2; Emphasis added.)

Therefore, the Panasik reference establishes that a wireless network environment 10 can be arranged to provide switch diversity for the various devices on the network such that the

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single access point 18 that provides the best signal-to-noise ratio for each wireless computing device 12 is chosen from all the access points 18 and 20.

Applicant submits that the Panasik reference fails to disclose, for example, "an RF port, coupled to a cell controller, said <u>RF port being configured to perform second level medium access control (MAC) functions</u>, the RF port comprising a cell controller interface, a data processor and an RF module, and wherein the <u>cell controller is configured to perform first level MAC functions</u>," as required by claim 28.

The Office asserts, at page 3 and 6-7 of the Office Action, that "the system disclosed by Panasik **inherently** comprises a MAC processor (or MAC interface) which **inherently** included low level and high level functions for performing functions of the data link layer (layer 2 of OSI) in order to transmit and receive data to/from mobile user 12 and Ethernet through physical layer (layer 1) and network layer (layer 3)." The Office concludes that:

> "One of ordinary skill in the art **must know this comprising.** Some references are cited in this office action to help clearly understand (wherein the RF port is configured to perform low level medium access control (MAC) functions and wherein the cell controller comprises at least one of a physical entity and a logical entity to perform high level MAC functions)."

Thus, the Office asserts that numerous features of claim 29 are either inherent or well-known in the art. Applicant respectfully traverses this rejection, and to preserve Applicant's argument on appeal, Applicant requests that the Examiner provide an affidavit that supports the rejection of claim 28 based on the official notice of the Examiner. In addition, Applicant notes that "in relying upon a theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support a determination that the allegedly inherent characteristic <u>necessarily</u> flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

For features of claim 28 which the Examiner deems as being inherent or necessarily present in the Panasik reference, Applicant respectfully <u>requests that the Examiner cite a reference which established the concepts of splitting MAC layer functions between an RF port and a cell controller</u> such that the RF port, coupled to a cell controller, is configured to perform second level medium access control (MAC) functions, and the cell controller is configured to perform first level MAC functions. Again, Applicant submits that the Panasik

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reference fails to disclose an "RF port being configured to perform second level medium access control (MAC) functions, the RF port comprising a cell controller interface, a data processor and an RF module, and wherein the cell controller is configured to perform first level MAC functions," as required by claim 28.

Alternatively, in the event the Examiner seeks to maintain this ground of rejection, Applicant requests that the Examiner provide documentary evidence that these features would indeed be well-known. See MPEP 2144.03, 37 C.F.R. § 1.104 (d)(2), and In re Lee, 277 F.3d 1338, 1344-45, 61 U.S.P.Q.2d 1430, 1435 (Fed. Cir. 2002) (finding that reliance on "common knowledge and common sense" did not fulfill the PTO's obligation to cite references to support its conclusions as PTO must document its reasonings on the record to allow accountability and effective appellate review).

Applicant submits that this limitation has not been disclosed in any reference cited by the Office, and would by no means "necessarily flow" from the teaching of the Panasik reference. As shown in FIGS. 3 and 4 of the Panasik reference, each access point includes an antenna 103, a transceiver 104, an A/D over-sampling converter 108 and an encoder 112. The multiple access point 101 receives a single modulated signal 16 from a wireless computing device 12 (FIG. 2) via the antenna 103. The transceiver 104 then amplifies, filters and demodulates the signal 16. The A/D converter 108 then samples the signal 16. The converted digital signal is encoded by encoder 112 or 114 with a special code associated with the multiple access point 101 where the analog signal was received in order to later separate the signals on the network backbone 22. The output from encoder 112 is then transmitted to the network backbone 22 via the network cabling 26. However, in contrast to claim 28, as shown in the FIGS. 3 and 4 of the Panasik reference, nothing in Panasik reference suggests that the access points are configured to perform second level medium access control (MAC) functions, while the cell controller is configured to perform first level MAC functions.

Thus, Applicant submits that the Panasik reference fails to teach, for example, "an RF port, coupled to a cell controller, said RF port being configured to perform second level medium access control (MAC) functions, the RF port comprising a cell controller interface, a data processor and an RF module, and wherein the cell controller is configured to perform first level MAC functions," as required by claim 28. Accordingly, for at least the foregoing reasons,

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Applicant submits that amended claim 28, and its dependent claims 60-62, are patentable over the cited references. In addition, Applicant submits that many of the dependent claims are separately patentable since the cited references fail to teach recitations present in those claims.

As noted above, the Office rejects independent claim 32 for the same reasons. Independent claim 32 recites "the RF port is configured to perform only second level MAC functions," and "providing data signals to said cell controller interface from said data processor, wherein said data signals comprise a data packet having a source address corresponding to said RF port." Applicant submits that claim 32 and its dependent claim 64 are patentable over the cited references for at least the reasons noted above with respect to claim 28.

Claims 29 and 30

Independent claim 29 relates to a method for transmitting signals having a wireless signal format using an RF port configured to perform second level MAC functions, wherein the RF port is configured to be coupled to a cell controller via an Ethernet interface and comprises a data processor and an RF module, and wherein the cell controller is configured to perform first level MAC functions. This method comprises:

> receiving an Ethernet data packet, formatted according to first level MAC functions, at said Ethernet interface, wherein said Ethernet data packet encapsulates a data message having said wireless signal format;
> operating said data processor to provide said data message to said RF module;
> transmitting said data message from said RF module as an RF signal to a mobile unit. (Emphasis added.)

Independent claim 33 relates to a method for receiving RF message signals having a wireless signal format including address data and message data using an RF port comprising an Ethernet interface which couples the RF port to a cell controller, a data processor and an RF module, wherein the RF port is configured to perform only second level MAC functions. This method comprises:

> receiving said RF message signals from a mobile unit in said RF module;
> providing said RF message signals as data signals to said data processor;
> interpreting address data in said data signals at said data processor;
> in dependence on said address data, encapsulating said RF message data and address data in an Ethernet packet; and

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>   providing said Ethernet packet to said Ethernet interface formatted according to first
>   level MAC functions on said cell controller. (Emphasis added.)

The Office rejects claims 29 and 33 for essentially the same reasons claims 28 and 32 were rejected.

For at least the reasons discussed above with respect to claim 28, Applicant submits that the Panasik reference fails to disclose "an RF port configured to perform second level MAC functions, wherein the RF port is configured to be coupled to a cell controller via an Ethernet interface and comprises a data processor and an RF module, and wherein the cell controller is configured to perform first level MAC functions," as required by claim 29. Applicant further submits that the Panasik reference fails to disclose "receiving an Ethernet data packet, formatted according to first level MAC functions, at said Ethernet interface, wherein said Ethernet data packet encapsulates a data message having said wireless signal format," as required by claim 29.

With respect to independent claim 33, Applicant submits that the Panasik reference fails to disclose that "the RF port is configured to perform only second level MAC functions," or "providing said Ethernet packet to said Ethernet interface formatted according to first level MAC functions on said cell controller," as required by claim 33.

Accordingly, for at least the foregoing reasons, Applicant submits that independent claims 29 and 33, and their dependent claims 30 and 35, 65-67, respectively, are patentable over the cited references.

New Claims 70-90

Applicant adds new claims 70-90 in this amendment. New claims 70-90 are added to more broadly cover certain concepts disclosed in the present application. Applicant submits that these claims also define over the cited reference, and are therefore in condition for allowance.

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In conclusion, for the reasons given above, all claims now presently in the application are believed allowable and such allowance is respectfully requested. Should the Examiner have any questions or wish to further discuss this application, Applicant requests that the Examiner contact the undersigned attorney at (480) 385-5060.
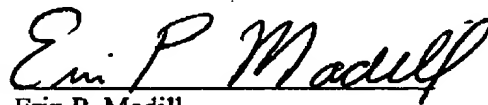
If for some reason Applicant has not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent abandonment on this application, please consider this as a request for an extension for the required time period and/or authorization to charge Deposit Account No. 50-2091 for any fee which may be due.

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Respectfully submitted,

INGRASSIA FISHER & LORENZ
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Dated: August 10, 2005   By: Erin P. Madill
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